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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,694	12/02/2003	Minoru Miyaji	246194SU2	1977
22850	7590	07/27/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/724,694

Applicant(s)

MIYAJI ET AL.

Examiner

Elizabeth A. Rielley

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/1/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Objections***

Claim 1 is objected to because of the following informalities: the phrase “of the mentioned substrate” is unclear as to which substrate is being referred to in this line. Perhaps it’s both substrates? The phrase “is reflected from an original” is also unclear as to the object of the term “original”. For the purpose of this examination, the Examiner will understand this phrase to mean a reflection layer opposite of the discharge space on the second substrate. Appropriate corrections are required.

Claims 2 and 13 are objected to because of the following informalities: the phrase “said second substrate acts also as a glass plate on the surface of which an original to be read is carried” is not clear due to a) no other glass plate has yet been described and b) it is unknown what the original is referring to. For the purpose of this examination, the Examiner will understand this claim to read that the second substrate is a glass substrate. An appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Park (US 20020079827).

Park teaches a discharge light-emitting device (figure 8e) comprising: a transparent first substrate (31a; paragraph 43); first electrodes (33a; paragraph 42) formed on said first substrate in parallel while a central part extending in longitudinal direction of said first substrate being left as a clearance (see figure 8e); a transparent second substrate made from glass (31; paragraph 43); second electrodes formed on said second substrate in parallel while a central part extending in longitudinal direction of said second substrate being left as a clearance (33; see figure 8e); a container forming a discharge space by said first substrate, said second substrate being opposite to said first substrate so that said first electrodes and said second electrodes are opposite to each other, and sidewalls (not numbered; see figure 8e); first fluorescent layers formed on the discharge space side of said first substrate in parallel so as to be opposite to said first electrodes while a central part extending in longitudinal direction of said first substrate being left as a clearance (37a; paragraphs 63 and 8); and second fluorescent layers formed on the discharge space side of said second substrate in parallel so as to be opposite to said second electrodes while a central part extending in longitudinal direction of said second substrate being left as a clearance (37); wherein clearance of a central part extending in parallel in longitudinal direction between said first fluorescent layers is shorter than that of a central part extending in parallel in longitudinal direction between said second fluorescent layers (due to reflection layer 35, the distance between the second fluorescent layers is longer than the distance between the first fluorescent layers with out the reflection layer).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 20020079827) in view of Lee (US 20030146699).

In regard to claim 1, Park teaches a discharge light-emitting device (figure 8e) comprising: a transparent first substrate (31a; paragraph 43); first electrodes formed on said first substrate in parallel while a central part extending in longitudinal direction of said first substrate being left as a clearance (33a; paragraph 42); a transparent second substrate (31; paragraph 43); second electrodes formed on said second substrate in parallel while a central part extending in longitudinal direction of said second substrate being left as a clearance (33); a container forming a discharge space by said first substrate, said second substrate being opposite to said first substrate so that said first electrodes and said second electrodes are opposite to each other, and sidewalls (not numbered; see figure 8e); first fluorescent layers formed on the discharge space side of said first substrate in parallel so as to be opposite to said first electrodes while a central part extending in longitudinal direction of said first substrate being left as a clearance (37a); and second fluorescent layers formed on said discharge space side of said second substrate in parallel so as to be opposite to said second electrodes while a central part extending in longitudinal direction of the second substrate being left as a clearance (37). Park is silent regarding the limitation wherein light emitted from said fluorescent layers on both sides of the central part extending in

longitudinal direction of the mentioned substrate is reflected from an original located on opposite side of the discharge space of said second substrate, and the reflected light passes through the central part extending in longitudinal direction of said substrate and reaches the opposite side of the discharge space of said first substrate. Lee ('699) teaches a reflecting layer (28; paragraph 27) on the second substrate (25), the reflecting layer facing outside of the discharge area of a discharge light-emitting device in order to increase the luminosity of the light-emitting device. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device of Park with the reflecting layer of Lee. Motivation to combine would be to increase the luminosity of the light-emitting device.

Although both Park and Lee do not explicitly state that the light emitted from the fluorescent layers is reflected through the central part extending in longitudinal direction of said substrate and reaches the opposite side of the discharge space of said first substrate, it would have been obvious at the time of the invention to one of ordinary skill in the art that by placing a reflecting layer behind the second substrate, the light emitted from the fluorescent layers would naturally be reflected back into the discharge space, due to the nature of transparent substrates and reflective substances.

In regard to claim 2, Park teaches the second substrate (31) is made from glass (paragraph 43).

In regard to claim 3, Park teaches dielectric layers that are formed in parallel leaving a central part extending in longitudinal direction of said first substrate as a clearance, and with which said first electrodes are coated (34a; see figure 8e; paragraph 61); and dielectric layers that are formed in parallel leaving a central part extending in longitudinal direction of said second substrate as a clearance, and with which said second electrodes are coated (34; see figure 8e).

In regard to claim 6, Park teaches the clearance of the central part extending in parallel in longitudinal direction between said dielectric layers on said first substrate (34a across 31) is shorter than that of the central part extending in parallel in longitudinal direction between said fluorescent layers on said second substrate (37; due to reflection layer 35, the distance between the second fluorescent layers is longer than the distance between the dielectric layers with out the reflection layer).

In regard to claim 7, Park/Lee disclose all the limitations set forth, as described above, Lee also teaches first electrodes (28; paragraph 27) on said first substrate are formed on the opposite side of said discharge space on said first substrate (see figure 2) in order to increase the luminosity of the light-emitting device. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device of Park with the electrode configuration of Lee. Motivation to combine would be to increase the luminosity of the light-emitting device.

In regard to claim 8, Park teaches the first electrodes (33a) on said first substrate (31a) are formed on the side of said discharge space on said first substrate (see figure 8e).

In regard to claim 9, Park teaches the second electrodes (33) on said second substrate (31) are formed on the side of said discharge space on said second substrate (see figure 8e).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 20020079827) in view of Lee (US 20030146699) and in further view of Amemiya et al (US 5742122).

Park/Lee disclose all the limitations set forth, as described above, except the dielectric layers are light shielding layers of which color tone is black. Amemiya et al ('122) disclose dielectric layers that are light shielding layers of which color tone is black (column 7 lines 47-54) in order to "improve the contrast between emission regions of displayed images". Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device of Park/Lee with the black dielectric material of Amemiya et al. Motivation to combine would be to improve the contrast between emission regions of the displayed images.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 20020079827) in view of Lee (US 20030146699) and in further view of Lee (US 6583554).

Park/Lee disclose all the limitations set forth, as described above, except the clearance of the central part extending in parallel in longitudinal direction between said fluorescent layers is shorter than that of the central part extending in parallel in longitudinal direction between said fluorescent layers formed on the same substrate as said dielectric layers. Lee ('554) teaches that the clearance of the central part extending in parallel in longitudinal direction between said fluorescent layers (39; between "33"; figure 4; column 4 lines 33-51) is shorter than that of the central part extending in parallel in longitudinal direction between said fluorescent layers (39) formed on the same substrate as said dielectric layers (37; between the two "35"s) in order to maximize the efficiency of the light-emitting display (column 3 lines 1-3). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device of Park/Lee with the measurements of Lee. Motivation to combine would be to maximize the efficiency of the light-emitting display.



Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 20020079827) in view of Lee (US 20030146699) and in further view of Arimoto (US 6674061).

Park/Lee disclose all the limitations set forth, as described above, except the first and second electrodes on said first and second substrate extending in parallel are connected to each other at one end thereof in longitudinal direction, thereby forming a connection part that is connected to an outside high voltage power source. Arimoto ('061) teaches the first and second electrodes (24, 25; column 5 line 59 to column 6 line 45) on said first and second substrate (2, 3) extending in parallel are connected to each other at one end thereof in longitudinal direction (see figure 5), thereby forming a connection part that is connected to an outside high voltage power source (14, 15; column 4 lines 2-5) in order to improve the life-span of the light-emitting device. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device of Park/Lee with the high voltage of Arimoto. Motivation to combine would be to improve the life-span of the light-emitting device.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 20020079827) in view of Arimoto (US 6674061).

In regard to claim 14, Park teaches a transparent first substrate (31; figure 8e; paragraphs 42-48); first electrodes (33) formed on said first substrate in parallel while a central part extending in longitudinal direction of said first substrate being left as a clearance (see figure 8e); a transparent second substrate (31a); second electrodes (33a) formed on said second substrate in parallel while a central part extending in longitudinal direction of said second substrate being left as a clearance (see figure 8e); a container forming a discharge space by said first substrate, said second substrate being opposite to said first substrate so that said first electrodes and said second electrodes are opposite to each other, and sidewalls

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(not numbered; see figure 8e); first fluorescent layers (37) formed on the discharge space side of said first substrate in parallel so as to be opposite to said first electrodes while a central part extending in longitudinal direction of said first substrate being left as a clearance (see figure 8e); second fluorescent layers (37a) formed on the discharge space side of said second substrate in parallel so as to be opposite to said second electrodes while a central part extending in longitudinal direction of said second substrate being left clearance (see figure 8e). Park is silent regarding the limitations of a contact image sensor, a converging lens that is disposed on the opposite side of the discharge space in the central part extending in longitudinal direction of said first substrate, and converges light reflected from the original; and a sensor for detecting the light reflected from said lens; wherein light emitted from said fluorescent layers on both sides of the central part extending in longitudinal direction of said substrate is reflected at an original located on opposite side of the discharge space of said second substrate, and then the reflected light passes through the central part extending in the longitudinal direction of said substrate and comes to be converged into said lens disposed on the opposite side of the discharge space in said first substrate.

Arimoto ('061) teach a contact image sensor (50; figure 4), a converging lens that is disposed on the opposite side of the discharge space in the central part extending in longitudinal direction of said first substrate, and converges light reflected from the original (54; see figure 4; column 5 line 49-column 6 line 41); and a sensor (53) for detecting the light reflected from said lens; wherein light emitted from said fluorescent layers on both sides of the central part extending in longitudinal direction of said substrate is reflected at an original located on opposite side of the discharge space of said second substrate, and then the reflected light passes through the central part extending in the longitudinal direction of said substrate and comes to be converged into said lens disposed on the opposite side of the discharge space in said first substrate, in order to improve the efficiency of the contact image sensor. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light-emitting device

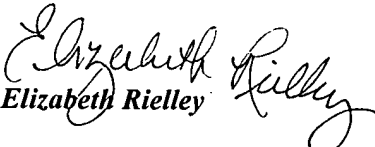
of Park with the contact image sensor of Arimoto. Motivation to combine would be to improve the efficiency of the contact image sensor.

***Conclusion***

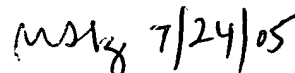
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Elizabeth Rielley

***Examiner***  
***Art Unit 2879***

  
MARICELI SANTIAGO  
PRIMARY EXAMINER